CYM74C430

Intel® 82430FX PCIset Level II Cache Module

Features

- **Pin-compatible secondary cache module family that adheres to the Intel® COAST 1.2 specification**
- **Asynchronous (CYM74C430) configuration with presence and configuration detect pins**
- **Ideal for Intel P54C-based systems with the 82430FX (Triton™) chipset**
- **Operates at 50, 60, and 66 MHz**
- **Uses cost-effective CMOS asynchronous SRAMs.**
- **160-position Burndy DIMM CELP2X80SC3Z48 connector**
- **3.3V compatible inputs/data outputs**

Functional Description

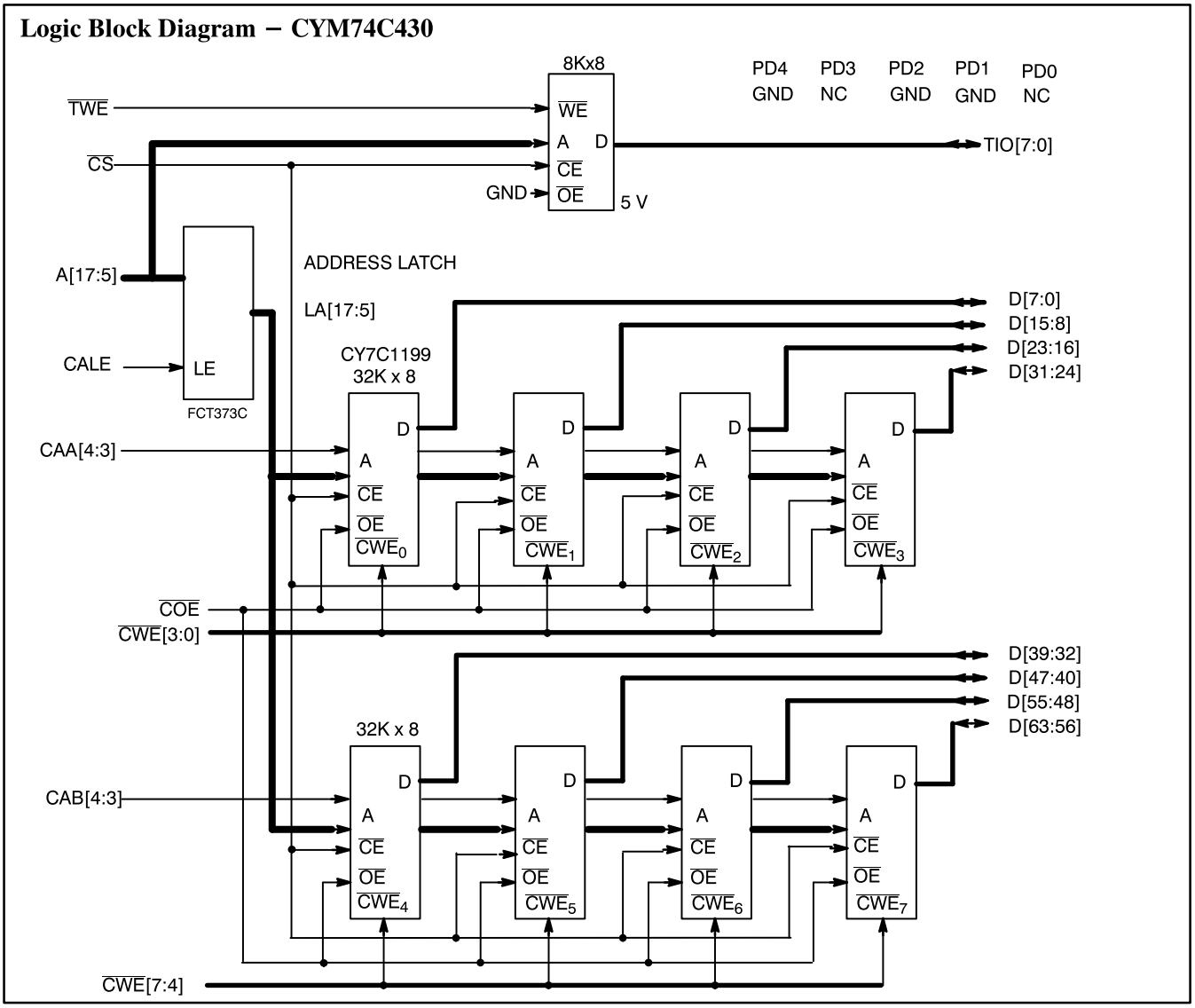
This secondary cache module is designed for Intel P54C systems with the 82430FX (Triton) chip set.

CYM74C430 is an asynchronous 256-Kbyte cache module that provides a low-cost, high-performance solution using 5V SRAMs with outputs clamped to 3.3V. The CYM74C430 is organized as 32K by 64 data with an 8Kx8 tag that supports 3-2-2-2 reads and 4-2-2-2 writes at 66 MHz.

Multiple ground pins and on-board decoupling capacitors ensure high performance with maximum noise immunity.

All components on the cache module are surface mounted on a multi-layer epoxy laminate (FR-4) substrate. All inputs and data outputs are (3.3V) TTL compatible. The contact pins of the module are plated with 150 micro-inches of nickel covered by 30 micro-inches of gold.

Logic Block Diagram – CYM74C430



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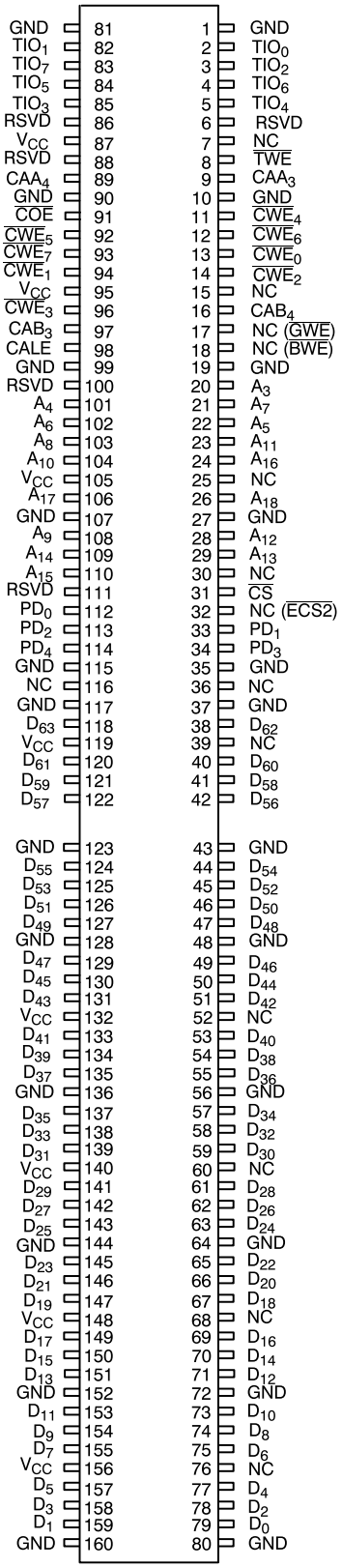
Pin Configuration

Dual Read-Out SIMM (DIMM)
Top View



Pin Definitions

Signal Name	Description
V_{CC}	5V Supply
GND	Ground
A[18:3]	Addresses from processor
CAA[4:3]	Lower two address bits for bank 0
CAB[4:3]	Lower two address bits for bank 1
$\overline{CS}$	Chip Select
$\overline{COE}$	Output Enable
$\overline{CWE}$[7:0]	Byte Write Enables
CALE	Latch Enable
PD_0-PD_4	Presence Detect output pins
D[63:0]	Data lines from processor
TIO[7:0]	Tag data bits
$\overline{TWE}$	Tag Write Enable signal
NC	Signal not connected on module
RSVD	Reserved

Presence Detect Pins

MODULE	PD_4	PD_3	PD_2	PD_1	PD_0
CYM74C430	GND	NC	GND	GND	NC

Selection Guide

	CYM74C430−50	CYM74C430−60	CYM74C430−65
Cache Size	256 KB		
System Clock (MHz)	50	60	66
RAM Type	Asynchronous 5V with outputs clamped to 3.3V		
Data RAM t_{AA}	20 ns	17 ns	15 ns
Tag RAM t_{AA}	30 ns	20 ns	15 ns

Maximum Ratings

(Above which the useful life may be impaired. For user guidelines, not tested.)

Storage Temperature ..... −55°C to +125°C

Ambient Temperature with Power Applied ..... −0°C to +70°C

5V Supply Voltage to Ground Potential ..... −0.5V to +5.25V

DC Voltage Applied to Outputs in High Z State ..... −0.5V to +4.6V

DC Input Voltage ..... −0.5V to +4.6V

Output Current into Outputs (LOW) ..... 20 mA

Operating Range

Range	Ambient Temperature	V_{CC}
Commercial	0°C to +70°C	5V ± 5%

Electrical Characteristics Over the Operating Range

Parameter	Description	Test Condition	Min.	Max.	Unit
V_{IH}	Input HIGH Voltage		2.2	V_{CC} + 0.3	V
V_{IL}	Input LOW Voltage		−0.5	0.8	V
V_{OH}	Output HIGH Voltage	V_{CC}=Min. I_{OH} = −4 mA	2.4		V
V_{OL}	Output LOW Voltage	V_{CC}=Min. I_{OL} = 8 mA		0.4	V
I_{CC}	V_{CC} Operating Supply Current	V_{CC}=Max., I_{OUT}=0 mA, f=f_{MAX}=1/t_{RC}		1600	mA

Ordering Information

Speed (MHz)	Ordering Code	Package Name	Package Type	Description	Operating Range
50	CYM74C430PM−50C	PM37	160-Pin Dual-Readout SIMM	Async 256 KB	Commercial
60	CYM74C430PM−60C	PM37	160-Pin Dual-Readout SIMM	Async 256 KB	Commercial
66	CYM74C430PM−66C	PM37	160-Pin Dual-Readout SIMM	Async 256 KB	Commercial

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Package Diagram

160-Pin Dual-Readout SIMM PM37